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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,115	02/27/2004	Yoshiharu Tokunaga	245187US3CONT	7944

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EXAMINER

COMPTON, ERIC B

ART UNIT PAPER NUMBER

3726

DATE MAILED: 01/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/787,115

Applicant(s)

TOKUNAGA ET AL.

Examiner

Eric B. Compton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 23 and 25-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 08/908,162.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/27/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION***Priority***

1. It is noted that this application appears to claim subject matter disclosed in prior Application No. 10/112,326 filed April 1, 2002. A reference to the prior application must be inserted as the first sentence of the specification of this application or in an application data sheet (37 CFR 1.76), if applicant intends to rely on the filing date of the prior application under 35 U.S.C. 119(e) or 120. See 37 CFR 1.78(a). For benefit claims under 35 U.S.C. 120, the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of all nonprovisional applications. Also, the current status of all nonprovisional parent applications referenced should be included.

If the application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference to the prior application must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35

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U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A priority claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed claim for priority under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 23 and 25-27 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

4. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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Applicant amended claim 23 to require "forming the U-shaped tubes by a forming device turnably mounted on a shaft at a tube take out position." However, there is no corresponding disclosure of the "forming device." In fact, the specification merely suggests the U-shaped tubes are preformed and shipped to the location of the heat exchanger. See Pages 37-38. Furthermore, as shown in Figs. 19-22 (marked "Prior Art"), U-shaped tubes are well known in the art. At best, the forming device could be construed to be an ordinary tube-bending machine.

5. Applicant's remarks dated February 27, 2004, mischaracterized the Examiner's conclusion in the parent application 10/112,326, now U.S. Pat. 6,745,459. Claims 28-29, which were indicated as having allowable subject matter in 10/112,326, were directed to a heat tube exchanging feed apparatus rather than a forming device, now required in claim 23. The apparatus of claims 28-29 did not form the tubes but merely took them out one-by-one from a heat exchanger. See U.S. Pat. 6,745,459, Claim 1 (claim 28 amended) (emphasis added):

A heat exchanging tube feed apparatus for a heat exchanger for taking out one by one a plurality of heat exchanging tubes each having a U-shape in outer appearance and arranged in parallel with each other and feeding the tubes in one direction, said heat exchanging tube feed apparatus comprising:

- push means for pushing out the heat exchanging tubes;
- a push-out cylinder for driving the push means;
- a grooved roller supporting one tube positioned to a lower side of the tubes from a lower side thereof;
- a link mechanism supporting the grooved roller; and
- cylinder means for driving the link mechanism vertically and horizontally and taking out sideways the tube supported by the grooved roller, **wherein said grooved roller and said link mechanism are**

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supported so as to be rotatable by a shaft at a tube take-out position, and when a U-shaped curved portion of the U-shaped tube passes at a time of tube insertion, the grooved roller and the link mechanism are opened so as to escape in a tube inserting direction through the shaft.

Applicant is also directed to the Specification, page 33 disclosing the feature of the rotatable shaft. "The grooved roller 50 and the link 51 are turnably supported by the shaft 60 at the tube taking-out position as well as usually disposed at the tube taking-out position by the spring 61." Again there is no disclosure of forming the U-Shaped tubes this element. Thus, Applicant reliance on the Examiner's previous statements appears out of place in this application directed to the claims 23, and 25-27.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 23, and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat. 4,543,711 to Wada et al.

Wada et al disclose a method for assembling heat exchanger tubes. "The box 4 houses the U-tubes in a plurality of layers, each layer including U-tubes arranged in accordance with the order or sequence of the insertion, i.e., such that the U-tubes of smallest radius of curvature is positioned at the innermost position

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and the U-tubes having progressively increasing radii of curvature are disposed at the outer side successively." (col. 7, lines 57-63). "Since the positions of the bent portions of U-tubes in the box 4 are different, the data concerning the distances between the bent portions of adjacent tubes are beforehand inputted to the NC circuit of the control unit, so that the truck 1 can move backwardly to the position convenient for the picking up of the bent portion of the U-tube to be inserted next." (cols. 10-11, lines 67-5). "The series of operation described hereinabove is repeated cyclically to successively insert a plurality of U-tubes into the holes in the partition plated. As will be understood from the description, according to the automatic tube inserting system of the invention, it is possible to automatically insert the U-tubes into the object such as the partition plates of a heat exchanger without causing any damage to the U-tube." (col. 11, lines 14-21). The tubes are inherently bent by a tube-bending machine.

8. Claims 23, and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 51-115199 to Kudo et al.

Kudo et al disclose a method for assembling heat exchanger tubes in the manner claimed by Applicants. See Figures 1 & 2. The tubes are inherently bent by a tube-bending machine.

Prior Art References

The prior art references listed on the enclosed PTO-892, but not used in a rejection of the claims, are cited for their teachings of heat exchanging tube feeding apparatus.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Compton whose telephone number is (571) 272-4527. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter B. Vo can be reached on (571) 272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "Eric Compton", with a stylized flourish at the end.

Eric Compton
Patent Examiner